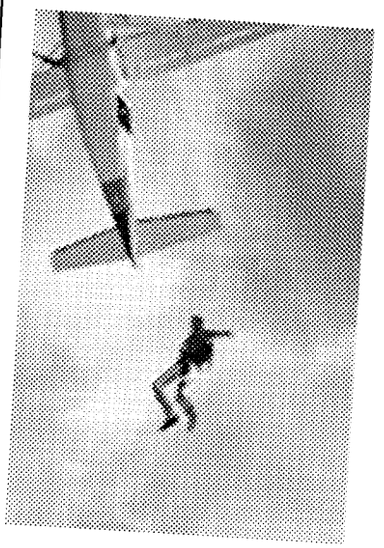
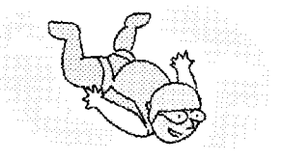


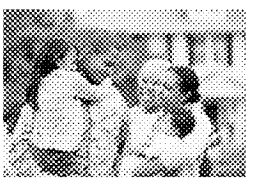
Would You Sky Dive Without a Parachute?

(Or When Do I Wear My PPE and What Do I Wear?)



PPE: Personal Protective Equipment

- **Personal protective equipment is designed to protect workers from serious workplace injuries or illnesses resulting from contact with chemical, biological, radiological, physical, electrical, mechanical, or other workplace hazards. Besides face shields, safety glasses, hard hats, and safety shoes, protective equipment includes a variety of devices and garments such as goggles, coveralls, gloves, vests, earplugs, and respirators.**
- *Professionals* wear PPE
- PPE can protect your future
- PPE makes your family happy


Last Line of Defense?

- Using personal protective equipment is often essential, but it is generally **the last line of defense after engineering controls, work practices, and administrative controls**.
- **Engineering controls** involve physically changing a machine or work environment. (Fume hoods)
- **Administrative controls** involve changing how or when workers do their jobs, such as scheduling work and rotating workers to reduce exposures.
- **Work practices** involve training workers how to perform tasks in ways that reduce their exposure to workplace hazards.

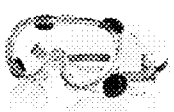
UMass as the Employer….

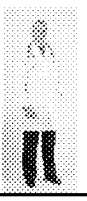
- Can assess the workplace to determine if hazards are present that require the use of personal protective equipment.
- If such hazards are present, they must select protective equipment and require workers to use it, communicate the protective equipment selection decisions to the workers,

  and select personal protective equipment that properly fits the workers.

Wear PPE? Know This:

- **How** to use protective equipment properly,
- Be aware of **when** personal protective equipment is necessary,
- Know **what** kind of protective equipment is necessary,
- **Understand** the limitations of personal protective equipment in protecting workers from injury,
- Put on, adjust, **wear**, and take off personal protective equipment, and
- **Maintain** protective equipment properly.



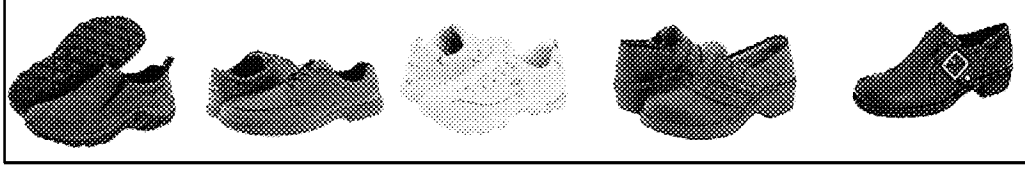




Protection from Head Injuries

- Hard hats can protect your workers from head impact, penetration injuries, and electrical injuries such as those caused by falling or flying objects, fixed objects, or contact with electrical conductors. Also, you may want to ensure that workers cover and protect long hair to prevent it from getting caught in machine parts such as belts and chains.

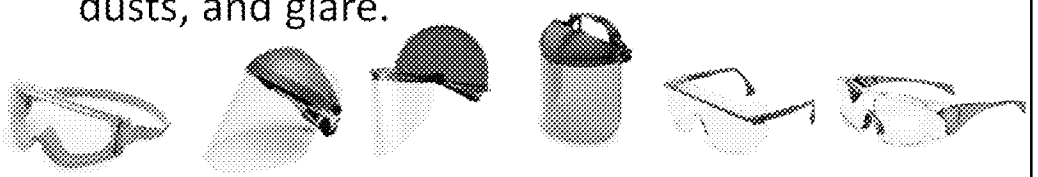
Protection from Foot and Leg Injuries

In addition to foot guards and safety shoes, aprons or leggings (e.g., leather, aluminized rayon, or other appropriate material) can help prevent injuries by protecting workers from hazards such as falling or rolling objects, sharp objects, wet and slippery surfaces, molten metals, hot surfaces, and electrical hazards.



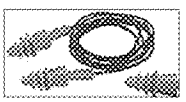
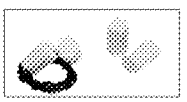
Protection from Eye and Face Injuries

In addition to spectacles and goggles, personal protective equipment such as special helmets or shields, spectacles with side shields, and faceshields can protect workers from the hazards of flying fragments, large chips, hot sparks, chemicals, biologicals, optical radiation, splashes from molten metals, as well as objects, particles, sand, dirt, mists, dusts, and glare.



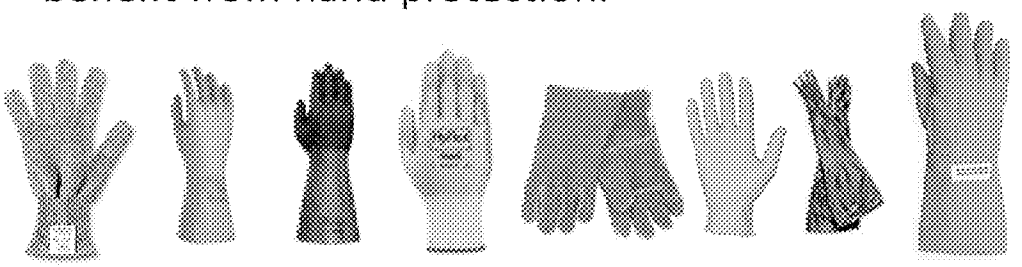
Protection from Hearing Loss

Wearing earplugs or earmuffs can help prevent damage to hearing. Exposure to high noise levels can cause irreversible hearing loss or impairment as well as physical and psychological stress. Earplugs made from foam, waxed cotton, or fiberglass wool are self-forming and usually fit well. A professional should fit your workers individually for molded or preformed earplugs. Clean earplugs regularly, and replace those you cannot clean.

Protection from Hand Injuries

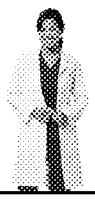
Workers exposed to harmful substances through skin absorption, severe cuts or lacerations, severe abrasions, chemical burns, thermal burns, and harmful temperature extremes will benefit from hand protection.

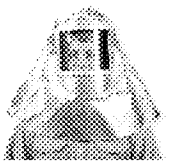
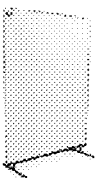
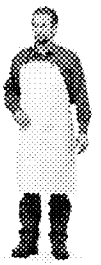


Protection from Body Injury

In some cases workers must shield most or all of their bodies against hazards in the workplace, such as exposure to heat and radiation as well as hot metals, scalding liquids, body fluids, hazardous materials or waste, and other hazards.

In addition to fire-retardant wool and fire-retardant cotton, materials used in whole-body personal protective equipment include rubber, leather, synthetics, and plastic.



When to Wear Respiratory Protection

When engineering controls are not feasible, workers must use appropriate respirators to protect against adverse health effects caused by breathing air contaminated with harmful dusts, dander, fogs, fumes, mists, gases, smokes, sprays, or vapors.

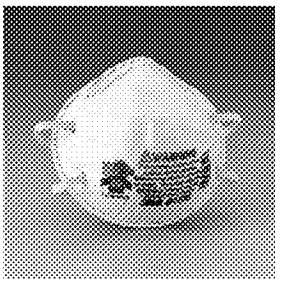
Respirators generally cover the nose and mouth or the entire face or head and help prevent illness and injury. A proper fit is essential, however, for respirators to be effective.

Required respirators must be NIOSH-approved and medical evaluation and training must be provided before use.

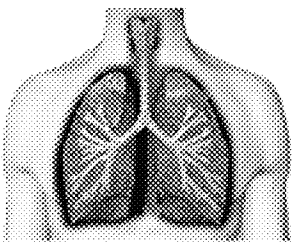
Sign-On for PPE

Signs With Another Message:

These are disposable:



These are not:

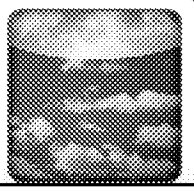


Fun Safety Messages

"If you are in favor of safety glasses, Say: 'Eye'"

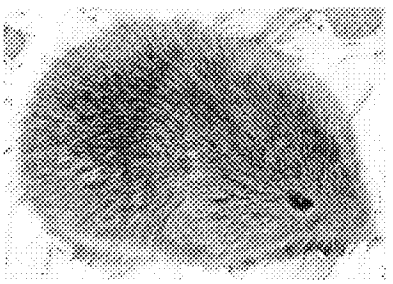
"A spill or a slip could mean a hospital trip."

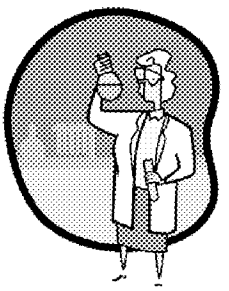
"Remember to work safe today. Heaven can wait."



Case Study #1

- A scientist works with voles and notices that she has the sniffles and itchy eyes when she is with these animals. What can she wear to reduce these symptoms? Are there any restrictions?



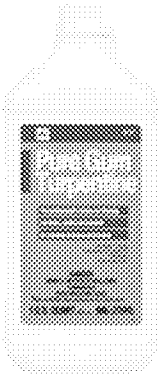


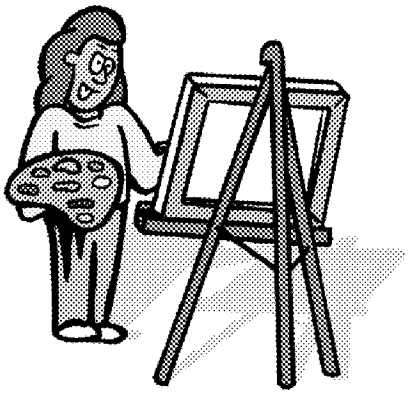
Case Study #2

- Two people are in a Chemistry lab. One is pouring 10 M HCl into a beaker on the bench top; the other person is working on the computer nearby. What do each of them need to wear for PPE?

Case Study #3

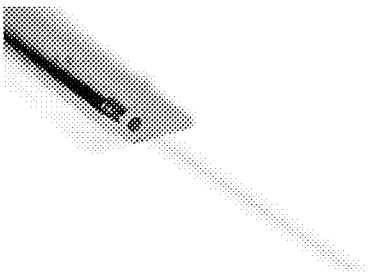
- An Instructor in Studio Arts has to clean fifty dirty paint brushes in turpentine. What PPE needs to be worn to do this task?

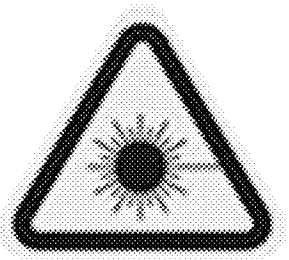




Case Study #4

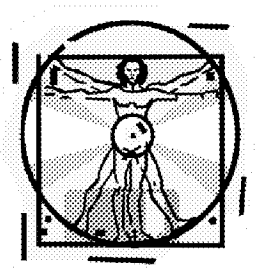
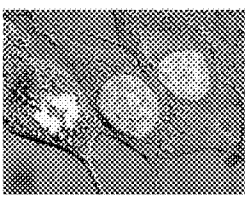
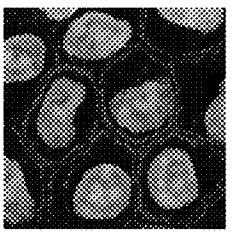
Lasers are used in this laboratory. What PPE is needed? What about UV and color?



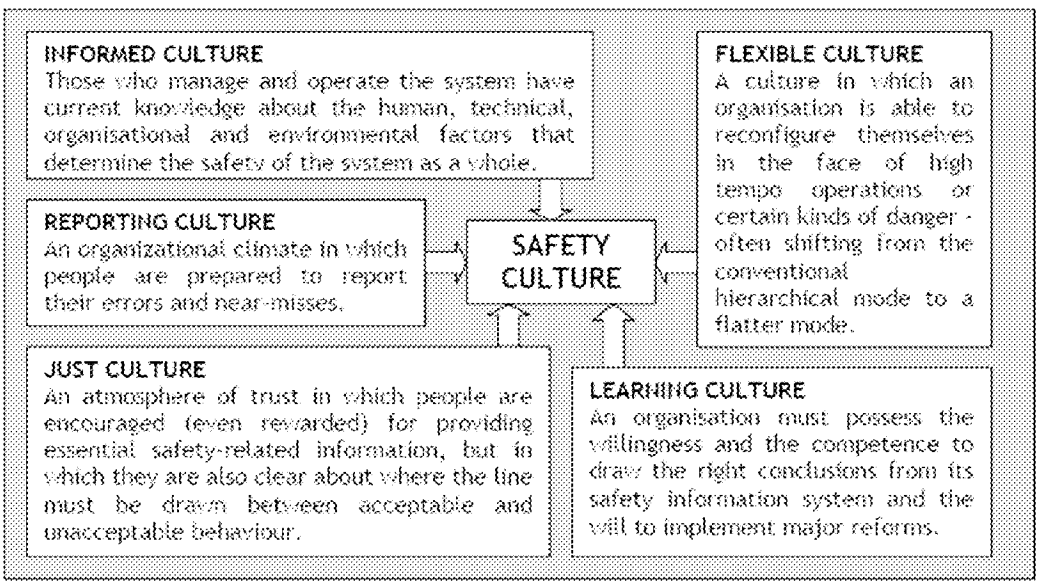


Case Study #5

- This laboratory works with human cell lines. What PPE needs to be worn? When do they need to put it on?

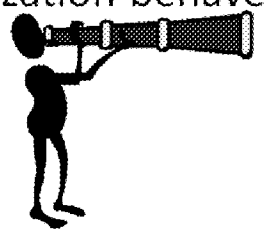




What Are We?


INFORMED CULTURE
Those who manage and operate the system have current knowledge about the human, technical, organisational and environmental factors that determine the safety of the system as a whole.
REPORTING CULTURE
An organizational climate in which people are prepared to report their errors and near-misses.
SAFETY CULTURE
FLEXIBLE CULTURE
A culture in which an organisation is able to reconfigure themselves in the face of high tempo operations or certain kinds of danger - often shifting from the conventional hierarchical mode to a flatter mode.
JUST CULTURE
An atmosphere of trust in which people are encouraged (even rewarded) for providing essential safety-related information, but in which they are also clear about where the line must be drawn between acceptable and unacceptable behaviour.
LEARNING CULTURE
An organisation must possess the willingness and the competence to draw the right conclusions from its safety information system and the will to implement major reforms.

Safety Culture

- Safety culture is how the organization behaves when no one is watching.



- So let us start watching, guiding and encouraging more often.

"Be the change you want to see in the world."